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A new telephone that American Telephone & Telegraph Co. will introduce nationwide has special lights that can be used to transmit telephone and room conversations to an outside listener, a nationally recognized wiretap expert says.

Martin L. Kaiser, who has been a supplier of wiretaps and bugs to the CIA, FBI, National Security Agency, and Army intelligence units, says the new bugging technique will become possible when AT&T begins using the special lights rather than conventional light bulbs to indicate that a line is in use on a multiline telephone.

These telephones—called key sets and Call-Directors—will come equipped with the new lights within five years, AT&T spokesman Conrad Polloge said. Some will have them within a year, he added.

Kaiser, who manufactures both bugging and de-bugging devices, said in an interview in his Timonium, Md., plant that a relatively simple modification turns the phones into bugs that transmit voices through the lights to any point within sight of the installation.

Because the light-bugs operate on telephone current, they will transmit indefinitely, Kaiser said. And because they transmit through light waves rather than radio waves, or wires used by conventional bugs, the new devices are more difficult to detect during de-bugging operations than other devices, he said.

Kaiser said the key to the new technique is a new kind of light source called a light emitting diode (LED).

By modulating, or adjusting, the light emissions to conform with sound wave frequencies, LEDs can be used as transmitters, experts agree.

AT&T plans to switch to LEDs because they last indefinitely, cutting down on repair calls made to replace indicator lights, AT&T spokesman Polloge said.

He said AT&T was not previously aware that the new phones could be bugged through the LEDs, but he said no consideration is being given to changing plans to introduce them.

"We will look for it (LED bugs) when asked to check for wiretaps by customers," he said.

A spokesman for Bell Laboratories, the research arm

of AT&T, at first denied LEDs can be used for bugging.

The spokesman, David P. Bickle, later said they could be used for bugging but would be "impractical" compared with techniques already available.

Other experts said the LED bugs would be about as easy to install as currently used bugs.

Bickle and Kaiser pointed out that LEDs cannot transmit through drapes or blinds. Bickle also said that rain or snow would reduce transmission quality.

Conversion of the new phones to bugging devices would require movement of several wires and installation of an electronic component the size of a pinhead within the telephone, Kaiser said. He said the cost would be less than \$15 per bug.

Installation of another LED the size of a pinhead on the ceiling above the telephone could beam the bugged signals through any window to a listening post outside, he said.

The listening post could be an apartment house across the street, a telephone pole or a sign some distance away, he added. The listening post must, however, have an unobstructed view of the location being bugged.

Kaiser said he has monitored an LED bug he installed for test purposes from half a mile away.

Another wiretap expert, Allan D. Bell, president of Dektor Counterintelligence and Security Inc. in Springfield, Va., said he has tested an LED bug in daylight over a distance of about 65 yards.

Bell, a former Army intelligence wiretapper who is a competitor of Kaiser, said he would generally prefer to use other bugging techniques. But he said their installation on telephones expands the arsenal of techniques available to wiretappers.

But he said the lights can be modified to transmit room voices at all times by lowering their intensity and keeping them on. The fact that they are on cannot be detected in normal room lighting, he said.

A good bug, Kaiser said, must be difficult to detect. "You have the advantage with LEDs that a de-bugging expert is not going to be looking for light signals," he said.

By normal wiretapping standards, he said, LEDs are relatively easy to install. When the telephone company issues its new telephone sets he said, "The bugs will come as standard equipment with your telephone."

## Expert Calls New Telephone Vulnerable to Eavesdropping